NARROW BAND, CW, CONTINUOUSLY TUNABLE, NEAR- TO MID-IR PPLN OPO FOR HIGH-RESOLUTION SPECTROSCOPY

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We are developing a high power, cw optical parametric oscillator for high resolution infrared spectroscopy. The OPO is based on periodically poled lithium niobate, pumped by a single frequency Nd:YAG laser, to produce single frequency light in the near- and mid-IR. The narrow band output is continuously tunable over its broad output range, enabling sub-Doppler spectroscopies of molecular gases to be obtained. Details of the OPO, and its prospective applications in IR spectroscopy, are discussed.